Gaussian Beam Depth Migration

The Shearwater Gaussian Beam Depth Migration provides enhanced multi-raypath imaging in complex geology

- Multi-raypath depth imaging
- Isotropic, VTI and TTI anisotropic
- Steep dips
- Target output lines, volumes or honeycombs
- Target output CMPs for velocity model building
- Noise removal
- Multiple removal

The Shearwater Gaussian Beam Migration (GBM) is ideally suited for depth imaging in areas of complex geology where there may be many raypaths between a surface location and a subsurface imaging point. GBM can image the energy from the multiple raypaths. Sub-salt imaging is a typical example of a complex overburden imaging problem that can benefit from GBM.
GBM retains many of the convenient aspects of Kirchhoff PSDM (common offset input, target-oriented outputs, steep dip imaging) but overcomes the limitations of KPSDM by accounting for multi-arrivals without the computational expense of WEM/RTM algorithms.

Additional flexibility within the GBM algorithm allows tailoring of the imaging to remove anomalous noise or multiple energy.